

USACE NavLocks HPO PWS

Technical Exhibit 5 – Maintenance Workload

Maintenance Requirement

The entity resulting from the Highly Performing Organization (HPO) process will maintain 245 specific lock and dam sites, 76 Maintenance facilities or offsite support locations and 9 project offices listed in Annex A of this exhibit.

This Performance Work Statement (PWS) does not set specific requirements for preventive maintenance activities. The level of maintenance required will be determined by the entity resulting from the HPO process in order to maintain a system availability as stated in Technical Exhibit 2. The entity resulting from the HPO process must maintain all of the elements contained in ASTM Uniformat II (Annex A) that are at or adjacent to Navigation locks, dams, and maintenance facilities. This appendix includes a list of lock/dam structures, as well as a representative list of facilities, and equipment that must be maintained. The facilities and equipment list was captured during an FY2004 inventory. Please note that this is not an exhaustive list. The entity resulting from the HPO process is responsible for maintaining all equipment categories in the ASTM Uniformat II as long as they are located at or adjacent to one of the lock or dam locations listed in Annex B.

The structures located at lock sites are included in Annex B
Historical workload

Though USACE does not capture detailed maintenance workload data for all lock and dam sites. A detailed study was conducted at a single site (Lock and Dam 15, Rock Island, Illinois) during the 1999 – 2000 time period. This information is provided as an historical example of USACE maintenance practices. The entity resulting from the HPO process is encouraged to develop innovative maintenance practices that maintain or improve lock availability.

This Lock and Dam 15 site required 340 line items to be maintained. Preventive Maintenance (PM) labor hours equal 8,800 at a cost of \$305,801. These labor hours include a 20% increase in hours to account for unscheduled maintenance requirements and emergencies. The detailed maintenance schedule items and times per task are included in Annex E.

Annex A - ASTM Uniformalt II Classification for Building Elements

UNIFORMAT II, a format for classifying building elements and related sitework. Elements, as defined here, are major components common to most buildings. Elements usually perform a given function, regardless of the design specification, construction method, or materials used. Using UNIFORMAT II ensures consistency in the economic evaluation of building projects over time and from project to project, and it enhances project management and reporting at all stages of the building life cycle—planning, programming, design, construction, operations, and disposal.

ASTM Unifomat II Classification for Building Elements (E1557-97)

Level 1 Major Group Elements	Level 2 Group Elements	Level 3 Individual Elements
A SUBSTRUCTURE	A10 Foundations	A1010 Standard Foundations A1020 Special Foundations A1030 Slab on Grade
	A20 Basement Construction	A2010 Basement Excavation A2020 Basement Walls
B SHELL	B10 Superstructure	B1010 Floor Construction B1020 Roof Construction
	B20 Exterior Enclosure	B2010 Exterior Walls B2020 Exterior Windows B2030 Exterior Doors
	B30 Roofing	B3010 Roof Coverings B3020 Roof Openings
C INTERIORS	C10 Interior Construction	C1010 Partitions C1020 Interior Doors C1030 Fittings
	C20 Stairs	C2010 Stair Construction C2020 Stair Finishes
	C30 Interior Finishes	C3010 Wall Finishes C3020 Floor Finishes C3030 Ceiling Finishes
D SERVICES	D10 Conveying	D1010 Elevators & Lifts D1020 Escalators & Moving Walks D1090 Other Conveying Systems
	D20 Plumbing	D2010 Plumbing Fixtures D2020 Domestic Water Distribution D2030 Sanitary Waste D2040 Rain Water Drainage D2090 Other Plumbing Systems
	D30 HVAC	D3010 Energy Supply D3020 Heat Generating Systems D3030 Cooling Generating Systems D3040 Distribution Systems D3050 Terminal & Package Units D3060 Controls & Instrumentation D3070 Systems Testing & Balancing D3090 Other HVAC Systems & Equipment
	D40 Fire Protection	D4010 Sprinklers D4020 Standpipes D4030 Fire Protection Specialties D4090 Other Fire Protection Systems
	D50 Electrical	D5010 Electrical Service & Distribution D5020 Lighting and Branch Wiring D5030 Communications & Security D5090 Other Electrical Systems
E EQUIPMENT & FURNISHINGS	E10 Equipment	E1010 Commercial Equipment E1020 Institutional Equipment E1030 Vehicular Equipment E1090 Other Equipment
	E20 Furnishings	E2010 Fixed Furnishings E2020 Movable Furnishings
F SPECIAL CONSTRUCTION & DEMOLITION	F10 Special Construction	F1010 Special Structures F1020 Integrated Construction F1030 Special Construction Systems F1040 Special Facilities F1050 Special Controls and Instrumentation
	F20 Selective Building Demolition	F2010 Building Elements Demolition F2020 Hazardous Components Abatement

Annex B – Structures located at Lock Sites

1. The use classification standards (and codes) associated with land are as follows:

Code	Use
01	<u>Agriculture</u> . Land under cultivation for food and/or fiber production.
04	<u>Grazing</u> . Conservation lands primarily administered to preserve, protect, manage, or develop grass and other forage resources suitable for livestock. Exclude Wilderness Areas from this classification.
07	<u>Forest and Wildlife</u> . Conservation lands primarily administered to preserve, protect, manage, or develop timber, wildlife, watershed, and recreational resources. Exclude Wilderness Areas from this classification.
08	<u>Parks and Historic Sites</u> . Land administered for cemeteries, memorials, monuments, parks (national, historical, military, memorial, and national capital), sites (battlefield and historic), parkways, and recreation areas. Exclude Wilderness Areas from this classification.
09	<u>Wilderness Areas</u> . Land designated by Congress as a part of the National Wilderness Preservation System.
10	<u>Office Building Locations</u> . Land containing office buildings or future planned office buildings.
11	<u>Military (except airfields)</u> . Department of Defense and US Coast Guard controlled land used for military functions that cannot be classified elsewhere.
12	<u>Airfields</u> . Land used for military air bases or air stations and military or civilian landing fields.
13	<u>Harbor and Port Facilities</u> . Land used for harbor and port facilities.
14	<u>Post Office</u> . Land used in conjunction with a Post Office and used predominately as a general service and access area.
15	<u>Power Development and Distribution</u> . Land used for power development and distribution projects.
16	<u>Reclamation and Irrigation</u> . Land used for reclamation and irrigation projects.

18	<u>Flood Control and Navigation.</u> Land used for flood control and navigation projects.
19	<u>Vacant.</u> Land not being used.
20	<u>Institutional.</u> Land used for institutional purposes such as hospitals, prisons, schools, libraries, chapels, and museums.
30	<u>Housing.</u> Land used primarily for public housing projects, military personnel quarters, and dwellings for other Federal personnel.
40	<u>Storage.</u> Land used primarily for supply depots and other storage.
50	<u>Industrial.</u> Land used for physical plants engaged in producing and manufacturing ammunition, aircraft, ships, vehicles, electronic equipment, chemicals, aluminum, magnesium, etc.
70	<u>Research and Development.</u> Land used directly in basic or applied research in the sciences (including medicine) and in engineering.
72	<u>Communication Systems.</u> Land used for telephone and telegraph lines and radio towers.
73	<u>Navigation and Traffic Aids.</u> Land used for structures that provide for aircraft/ship navigation and traffic aids, such as beacon lights, antenna systems, ground control approach systems, and obstruction lighting.
80	<u>Other Land.</u> Land that cannot be classified elsewhere.
90	<u>Trust Land.</u> All land held in trust by your agency.
95	<u>Interim Use.</u> Land that has been outgranted to another entity (such as Federal, State and local government, private, or non-profit organization) for an interim period to defray protection and maintenance costs pending excessing of property or until mission has been reactivated.

2. The predominant use classification standards (and codes) associated with buildings are as follows:

Code	Predominant Use
10	<u>Office</u> . Buildings primarily used for office space.
14	<u>Post Office</u> . Buildings or portions of buildings used as a Post Office.
21	<u>Hospital</u> . Buildings used primarily for furnishing in-patient diagnosis and treatment under physician supervision and having 24-hour-a-day registered graduate nursing services. This category also includes medical laboratories used for routine testing. This category excludes buildings used directly in basic or applied medical research.
22	<u>Prison (Government-owned only)</u> . Buildings under the jurisdiction of the Department of Justice used for the confinement of Federal prisoners.
23	<u>School</u> . Buildings used primarily for formally organized instruction, such as schools for dependent children of Federal employees, Indian schools, and military training buildings.
29	<u>Other Institutional Uses</u> . Buildings used for institutional purposes other than schools, hospitals, and prisons, such as libraries, chapels, museums, and out-patient clinics.
30	<u>Housing</u> . Buildings primarily used as dwellings, such as apartment houses, single houses, row houses, barracks, public housing, military personnel housing, Federal employee housing, and housing for institutional personnel.
40	<u>Storage</u> . Buildings used for storage, such as warehouses, ammunition storage, cover sheds, garages primarily used for storage of vehicles or materials. This category excludes water reservoirs and oil storage tanks.
50	<u>Industrial</u> . Buildings specifically designed and primarily used for production or manufacturing, such as the production or manufacture of ammunition, aircraft, ships, vehicles, electronic equipment, chemicals, aluminum, and magnesium.
60	<u>Service</u> . Buildings used for service activities, such as maintenance and repair shops, dry cleaning plants, post exchange stores, airport hangars, and garages primarily used for vehicle maintenance and repair.

70	<u>Research and Development.</u> Buildings used directly in basic or applied research in the sciences (including medicine) and in engineering, such as medical laboratories; meteorological research laboratories; and buildings used in designing, developing, and testing of prototypes and processes for chemistry and physics. This category excludes medical or industrial laboratories used for routine testing.
72	<u>Communication Systems.</u> Buildings used for telephone and telegraph systems and/or associated with radio towers.
73	<u>Navigation and Traffic Aids.</u> Includes buildings that house aircraft/ship navigation and traffic aids, such as beacon lights, antenna systems, ground control approach systems, and obstruction lighting.
80	<u>All Other.</u> Buildings that cannot be classified elsewhere.
90	<u>Interim Use.</u> Buildings that have been outgranted to another entity (such as Federal, State and local government, private, or non-profit organization) for an interim period to defray protection and maintenance costs pending excessing of property or until mission has been reactivated.
99	<u>Trust Buildings.</u> All buildings held in trust by your agency. Provide a brief description of the building's use in the Remarks area.